

REMARKS

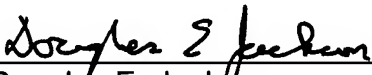
By this Amendment, the claims have been rewritten to reduce the multiple dependencies and to place the claims in better conformance with US practice.

Further and favorable action is respectfully solicited.

Respectfully submitted,

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ATTACHMENT A
Amendments to the Claims **DT09 Rec'd PCT/PTO 24 AUG 2004**

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) Plant for automatically washing the inking circuit in rotary printing presses, comprising: a chamber ~~(2)~~ for inking the inking cylinder ~~(1)~~; lines ~~(4', 4, 6, 8, 8', 8'')~~ which connect said chamber ~~(2)~~ to a tank ~~(3)~~ for the ink; means ~~(5)~~ for pumping the ink from said tank ~~(3)~~ along said lines ~~(4', 4, 6, 8, 8', 8'')~~ to said chamber ~~(2)~~ and from the latter back into the tank ~~(3)~~; a tank ~~(23)~~ for the clean solvent; lines ~~(22, 20)~~ provided with means able to connect said tank ~~(23)~~ to said line ~~(4)~~; a tank for the dirty solvent ~~(12)~~ and lines ~~(15, 12)~~ provided with means able to connect said tank ~~(12')~~ to said line ~~(8')~~, characterized in that said means ~~(5)~~ for pumping the ink consist of a peristaltic pump, the rotor of which is actuated by a motor with a reversible direction of rotation.
2. (Currently amended) Plant according to Claim 1, in which said means able to connect said tank ~~(23)~~ to said line ~~(4)~~ and said tank ~~(12')~~ to said line ~~(8')~~ consist of quick-action couplings.
3. (Currently Amended) Plant according to Claim 1, further comprising a tank ~~(17)~~ for the semi-dirty solvent, switching valve means ~~(14, 19)~~ able to connect said tank ~~(17)~~ to the lines ~~(12)~~ and ~~(20)~~, respectively, via the lines ~~(16)~~ and ~~(18)~~ being provided.
4. (Currently Amended) Plant according to Claim 1, further comprising a source of compressed low-pressure air connected, by means of shut-off means ~~(25)~~, to a line ~~(26)~~ which is branched to the line ~~(6)~~ upstream of the inking chamber ~~(2)~~.
5. (Currently Amended) Plant according to Claim 1, further comprising a source of compressed high-pressure air connected, by means of shut-off means ~~(27)~~, to a first line ~~(28)~~ which is branched to the line ~~(4)~~ upstream of the pump ~~(5)~~ and to a second line ~~(29)~~ which is branched to the line ~~8'~~ downstream of the inking chamber ~~(2)~~.

6. (Currently Amended) Plant according to ~~any one of the preceding claims~~ claim 1, in which a pump ~~(13)~~ is inserted into the circuit between said line ~~(12)~~ and said switching valve means ~~(14)~~.

7. (Currently Amended) Plant according to ~~any one of the preceding claims~~ claim 1, in which a pump ~~(21)~~ is inserted into the circuit between said line ~~(22)~~ and said switching valve means ~~(19)~~.

8. (Currently Amended) Plant according to ~~Claims 5 and 6~~ claim 6, in which said pumps ~~(13, 21)~~ are pneumatic pumps of the double diaphragm type.

9. (Original) Plant according to Claim 3, in which said source of low-pressure air is a source of air at a pressure of between 0.3 and 0.7 bar and preferably at a pressure of 0.5 bar.

10. (Original) Plant according to Claim 4, in which said source of high-pressure air is a source of air at a pressure of between 1.5 and 3 bar and preferably at a pressure of 2 bar.

11. (Currently Amended) Plant according to Claim 3, in which means are provided for supplying said low-pressure air in the line ~~(6)~~ by means of closely spaced intermittent pulses.

12. (Currently Amended) Plant according to the ~~preceding claims~~ claim 1 in which, adjacent to the chamber ~~(2)~~, the lines ~~(6')~~ and ~~(8')~~ are connected together by means of a line ~~(9')~~, with the insertion of a valve ~~(9')~~, and likewise the lines ~~(6)~~ and ~~(8)~~ are connected together by means of a line ~~(7')~~ with the insertion of a valve ~~(7')~~ so as to allow both clean and semi-dirty solvent to be pumped from what is under normal conditions the discharge hole of the chamber ~~(2)~~ and allow solvent to be discharged from the hole which under normal conditions is the hole supplying the said chamber ~~(2)~~,

so that, by means of closing of the valves (7) and (9) and opening of the valves (7') and (8'), it is possible to wash thoroughly, first with semi-dirty solvent and then with clean solvent, the pipe section (8).

13. (Currently Amended) Method for automatically washing the circuit in rotary printing presses using the plant in accordance with ~~any one of Claims 1 to 12~~ claim 1, comprising the steps of:

- inverting the direction of rotation of the rotor of the pump (5) so as to empty the ink contained in the chamber (2) and in the lines (6, 4, 4'), conveying it back into the tank (3) and at the same time causing the ink contained in the lines (8, 8' and 8'') to flow back by means of gravity into the same tank (3).
- disconnecting the quick-action coupling elements (10, 11) from the lines (4', 8'') and connecting them to the quick-action coupling elements (10' and 11');
- switching the valve element (19) so as to establish communication between the line (18) supplying the semi-dirty solvent from the tank (17) and the line (20) communicating via the couplings (10, 10') with the line 4;
- switching the valve element (14) so as to connect the line (8, 8'), the couplings (11', 11), the line (12) and the pump (13) to the line (15) leading into the tank (12') for collecting the dirty solvent;
- renewed reversal of the direction of rotation of the rotor of the pump (5) so as to pump the solvent from the tank (17) for the semi-dirty solvent via the line (6), the chamber (2), the lines (8, 8', 12 and 15) into the tank (12'), with simultaneous opening of the valve (25) so as to inject intermittently compressed low-pressure air into the line (6), within the flow of semi-dirty solvent;
- switching the valve (14) so as to connect the delivery of the pump (13) to the line (16) leading into the tank (17) and continued circulation, in a closed cycle, of the semi-dirty solvent through the circuit of the chamber (2), continuing the intermittent introduction of low-pressure air into the solvent which is circulated;
- emptying from the lines the semi-dirty solvent by means of reversal of the peristaltic pump (5), with conveying of the semi-dirty solvent back into the tank (17);

- switching the valve (19) so as to connect the tank (23) for the clean solvent to the flow circuit of the chamber (2), with discharging of the semi-dirty solvent obtained at the end of the cycle into the tank (17) for the semi-dirty solvent, continuing the intermittent introduction of low-pressure air into the clean solvent which is circulated;
- switching the valve (19) so as to connect the line (20) to the tank (17) for the semi-dirty solvent, interrupting the supply of low-pressure air; reversing the direction of rotation of the rotor of the pump (5) so as to cause all the solvent contained in the lines to flow back into the tank (17) for the semi-dirty solvent; switching the valves (7) and (9) into the intercepting position; switching the valve (27) so as to supply high-pressure air into the solvent conveying lines; and subsequent blowing of the high-pressure air through the valve (27) so as to perform emptying and partial drying of said lines using the high-pressure air;
- reconnection to the tank (3) containing the ink.

14. (Currently Amended) Method according to ~~the preceding~~ Claim 13, in which during the first washing step using semi-dirty solvent, the inking cylinder (4) is made to run at low speed, while during the subsequent washing steps using semi-dirty solvent and clean solvent the inking cylinder (4) is made to run at high speed, alternating the rotation in either direction so as to create a turbulence which removes the residual ink from the chamber (2) and from the cells of the cylinder (4).

15. (Currently Amended) Method for automatically washing the inking circuit in rotary printing presses according to ~~Claims 13 and 14, using the plant according to any one of Claims 1 to 12~~ claim 14, characterized by the step of intermittently introducing air into the flow of solvent circulated in the lines to be washed, causing an intermittent acceleration of the body of solvent inside the lines, which increases the action of separation of the ink from the walls of the lines by the solvent.

16. (New) Plant according to claim 7, in which said pumps are pneumatic pumps of the double diaphragm type.

17. (New) Method for automatically washing the inking circuit in rotary printing presses according to claim 14, characterized by the step of intermittently introducing air into the flow of solvent circulated in the lines to be washed, causing an intermittent acceleration of the body of solvent inside the lines, which increases the action of separation of the ink from the walls of the lines by the solvent.